

PROJECT GREEN SUBURBIA:  
REMODELING A MID-RANGE SUBDIVISION HOUSE SUSTAINABLY AND ON A  
BUDGET  
PROGRAM DOCUMENT

AN INTERIOR DESIGN PROJECT SUBMITTED TO THE GRADUATE SCHOOL  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR:

MASTERS OF ARTS

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MUNCIE, INDIANA

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## **PROGRAM CONTENT**

Chapter 1: Introduction: Page 3

Chapter 2: Visual Research Review: Page 6

Chapter 3: Methods: Page 16

Chapter 4: Results: Page 29

Chapter 5: Discussion: Page: 40

Chapter 6: Conclusions and Recommendations: Page 45

Appendix A: Construction Documents

Appendix B: Finishes Manual

Appendix C: Final Boards

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## **Chapter 1: Introduction**

### **A. Summary**

This project represents the sum of my work as an interior design student. I have made it personal, both in order to use myself as the subject for experimentation but also to force myself to adhere to a budget more grounded in reality than the lavish commercial and residential projects I have created over the past four years. This project focuses on our home, the shelter I share with my husband, the dwelling where we do the majority of our living. We love our home for many reasons, but most of all because it is where we can let our guard down and recharge to go out into the world the next day and do it all over again.

And I am focusing on a house, because houses are what brought me into this field to begin with, mud houses to be exact. I am intrigued with building shelter from the earth. More houses are made of mud and straw on this earth than any other medium. It is an artistic endeavor of the utmost importance. And while I have learned about many aspects of design, materials, drafting and drawing, but have yet to build a mud house, this project serves as a tribute to what brought me here in the first place: a shelter that is in tune with the environment, low on complex details and mechanics and high on elements of texture, line, balance, and simplicity.

So the renovation of our 1,500 sq ft. house into an updated, livable, open space that meets our needs and is responsible to the earth is the ultimate goal of this project. The well of inspiration is full and combined with four years of background and collected skill I hope to find myself in the perfect spot to see that goal achieved.

## **B. Background**

Brooke and Scott Fihma are ages 30 and 34 respectively. They have no children, have been married for nearly five years, and lead a very active lifestyle. Scott purchased their current home a year before the couple met. He chose the house because of its close proximity to the Monon Greenway Trail, a paved trail miles long, which he runs, walks or bikes daily.

Scott owns a small business, which does screen-printing and embroidery on business and athletic apparel. Brooke is completing a graduate degree in interior design and works part time at an art gallery. They both coach middle school cross-country and track and spend their free time training for a variety of outdoor endeavors. They share their house with a 5 year-old husky mix who sheds atrociously.

## **C. Problem Statement**

Scott and Brooke both grew up in Hamilton County, Indiana where they currently reside. Their home is located just on the border of Carmel and Indianapolis. It was built in 1991 and had not had any major updates since that time. It is in need of a new roof, new plumbing in the bathrooms, an updated kitchen, new flooring, a new front door and patio door, and a fresh coat of paint on the interior. The house is fairly open, with vaulted ceilings and an eat-in kitchen/living room area. However, the front door leads directly into an open “multi-purpose” room, which really serves no purpose. One major goal of the renovation is to make better

use of this space. Ultimately, the house needs both a functional and aesthetic update to take full advantage of the space available, and to highlight the positive attributes of the house, both of which will help resale value when the time comes to sell.

#### **D. Rationale**

This program will focus on the renovation of a small living space to make it as functional and as open as possible. Shelter magazines, books and blogs ranging from Dwell to “The Not So Big House” to Apartment Therapy focus on small living spaces, an emerging trend as the price of living becomes higher and jobs become scarcer. Downsizing is also a matter of environmentally responsible living. Learning to live with less stuff and in less space creates a smaller environmental footprint. It is in the spirit of these ideas that I intend to design updates for our home focusing on plenty of storage, natural light, green building materials and simple living.

## **Chapter 2: Visual Research Review**

In a design program document, precedent buildings are studied and recorded as sources of inspiration, ways to solve spatial layout problems, or as examples of innovative ways to use materials. This section includes three precedent studies of living spaces ranging from a loft apartment, to an open plan, tent-like structure, to a mud and plaster, upscale, but organic design in Kenya. Also included in this section is demographic data for the area of the client's house being renovated.

### **A. Demographics**

The house is located in the Lexington Farms subdivision between 111<sup>th</sup> and 106<sup>th</sup> Streets on the north and south, and between Rangeline and College on the east and west. The zip code is 46280, which is technically not considered part of Carmel, but children here go to Carmel schools and the city is trying to annex this area. So the following demographic information is for this zip code and for Carmel.

According to a Market Snapshot service generated by local realtor Sherry Soforic, this zip code has a population of about 7,500 with a median age of 38. There is low residential turnover, and there has been a 17% population growth since 2000. The median household income is \$78,581, well above the state average of \$52,381, but less than the median for Carmel of \$94,092. Carmel had a population of 53,282 as of 2007. (<http://www.city-data.com/city/Carmel-Indiana.html#top>)

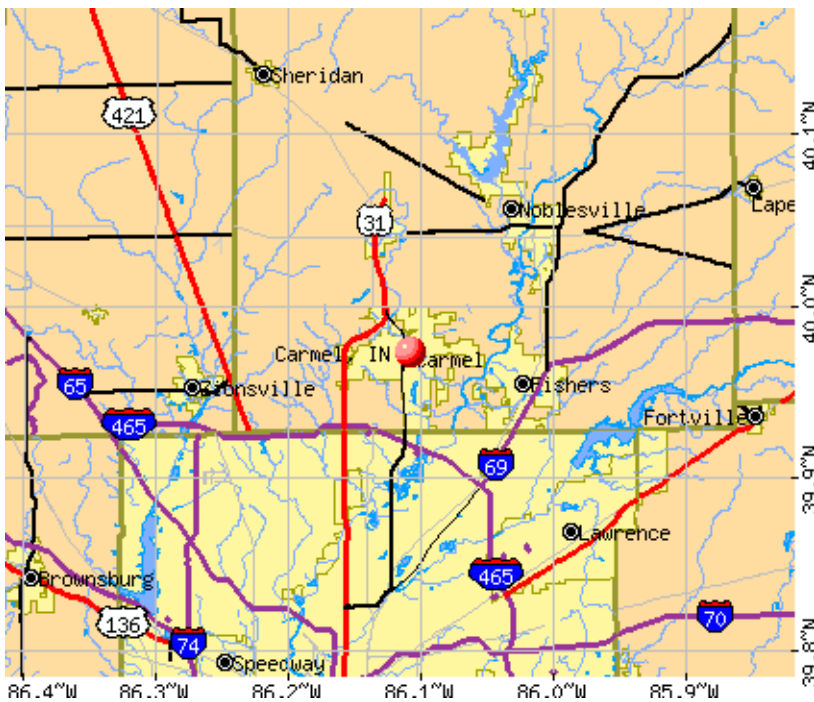
The median home price for 46280 is \$137,692, while the median home price for Carmel is around \$250,000. Lexington Farms is somewhat of a microcosm within

this zip code. There are 270 ranch and two story houses in the price range of around \$160-220,000. The neighborhood is made up of a mix of young couples without children, families with school-aged kids, and seniors who remain the original owner of their home. ([www.lexingtonfarms.org](http://www.lexingtonfarms.org))

This neighborhood is sought after because of amenities including new tennis courts, two pools, a basketball court and walking proximity to the Monon Trail. It is also directly across the street from Central Park and the Monon Center, a community fitness center and park developed by the city of Carmel. Nine ponds dot the neighborhood and serve as home to a variety of wildlife, while mature trees shade yards and sidewalks.

Lexington Farms is approximately 12 miles from downtown Indianapolis and just a few miles from the Interstate making it a perfect spot for commuting students and workers. It is within a dozen miles of Butler University and IUPUI, as well as dining and shopping areas ranging from the high end Keystone at the Crossing to eclectic Broad Ripple.

All of this makes Lexington Farms an attractive, affordable option for first time homebuyers and empty nesters, and houses go quickly provided they are updated. Our house was purchased for \$152,000 in 2002. When we sell it because we have outgrown it, we hope to get between \$170-\$180,000 for it. These renovations should make that feasible.





## B. Precedent Studies

### 1. FROHN & ROJAS' TENT-LIKE WALL HOUSE

Featured on Inhabitat:

<http://www.inhabitat.com/2007/07/19/frohn-rojas-wall-house/>

This house has been a source of inspiration for me for the past several years, ever since I first saw it in 2007. It's openness, ease of maintenance (concrete serves as the visual continuity as well as the practical building material of choice), and most importantly direct connection with nature are what inspire me about this dwelling. The house uses greenhouse roof material for an energy screen to regulate the home's interior temperature. The house is built on a concrete pad, so the floors essentially extend outside for several feet before becoming grass. Open shelving serves as transparent room dividers and abundant storage in the small-scale home.





## 2. MARZIA CHIERICHETTI'S HOUSE IN KENYA

<http://blog.piajanebijkerk.com/WordPress/2008/01/25/interior-inspiration-exclusive/#more-453>

Another house that has served as inspiration the past several months is one designed by stylist and furniture maker Marzia Chierichetti. Marzia owns a company called Be Clever where she designs everything from furnishings to jewelry out of local and recycled materials and has them fabricated in a studio run by Kenyan women, who she teaches to assemble her designs. Mango wood and leather are two very common materials in her work, and she places a heavy emphasis on conservation and reuse. Her furniture is expensive, especially to ship overseas, but if it is in the budget, her designs are a long-term investment which support African

craftswomen and the environment. These photos are of her house, a plaster structure with unique “windows” and hand made furnishings.









### 3. LOFT APARTMENT OWNED BY IM AND DAVID

Location: San Diego, CA


Featured: Dwell Magazine May 2007 Vol. 7 Issue 6 Pages 168-177

This apartment has also served as inspiration because of the owner's incredible creative use of vertical wall space for storage. The husband is an architect and designed "The Wall of Storage" out of a steel frame. It spans 13'x13' and holds most

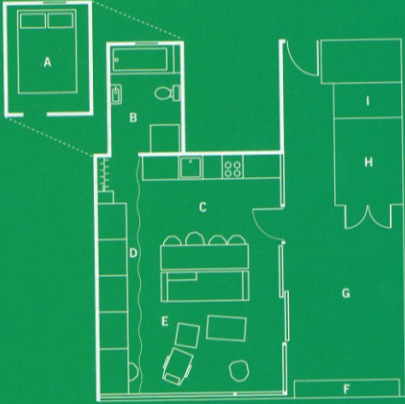
all of the owner's possessions so they can continue to have space to live in their small 426 sq ft. loft. The kitchen shelves were also intricately designed and spaced to hold specifics from spice jars to large pasta pans. I took from this space that one can still hold on to useful possessions, have them in reach but not scattered around on the floor. The visual organization created on the Wall of Storage is quite pleasing.

# Living Room

When Im and David Schafer moved in together they faced the challenge of combining the contents of David's 880-square-foot loft and Im's 550-square-foot apartment into a one-room, 426-square-foot downtown loft.



**Project:** One Space  
**Designers:** Im and David Schafer  
**Location:** San Diego  
**Size:** 426 square feet



**One Space Floor Plan**

- A Bedroom
- B Bathroom
- C Kitchen / Dining
- D Storage Wall
- E Living
- F Storage
- G Terrace
- H Workshop
- I Storage





### **Chapter 3: Methods**

Methods included in this project encompass the pieces that make up a typical design program. These include a chart of client requirements and preferences that addresses client requests for each space in the house.

Also in this section is a discussion of issues, goals, performance requirements and design concepts. Issues are challenges or specific needs that need to be addressed in the project, and they are listed in order of importance. Each issue has several goals and performance requirements under it. The goals help to break down the issue into smaller parts, and the performance requirements for each goal express how that part will be addressed in the design. There is also one design concept for each issue, which serves as a way of packaging the goals and performance requirements into an overarching concept addressing the original issue at hand.

Finally, the budget is also included in this section, since it sets limitations for materials selection and intricacy of design.

#### **A. Client Requirements and Preferences Chart**

SPACE	REQUIEIMENTS	PREFERENCES
GENERAL	- AIR CIRCULATION/CROSS VENTILATION  - USE OF NATURAL LIGHT	- WHITE FINISHES TO ALLOW LIGHT TO REFLECT FROM ALREADY EXISTING WINDOWS



	<ul style="list-style-type: none"> <li>- STORAGE TO MITIGATE CLUTTER</li> <li>-NEW FLOORS TO REPLACE WORN OUT CARPET</li> </ul>	<ul style="list-style-type: none"> <li>- FRONT DOOR WITH FULL LITE GLASS PANEL TO ALLOW MORE LIGHT IN</li> </ul>
ENTRY/SEATING	<ul style="list-style-type: none"> <li>AREA TO PUT SHOES/COATS</li> </ul>	<ul style="list-style-type: none"> <li>-“LIGHT” FURNITURE / MINIMALIST DESIGN, CLEAN LINES DUE TO SMALL SPACE, NO COFFEE TABLE SO PEOPLE CAN MOVE EASILY, MAYBE SIDE TABLES FOR BOOKS/MAGAZINES</li> </ul>
KITCHEN	<ul style="list-style-type: none"> <li>MORE FOOD PREP AREA, MORE SHELVING, NEW SINK</li> </ul>	<ul style="list-style-type: none"> <li>NEW CABINETS, OPEN SHELVING, CENTRAL ISLAND WITH OPEN SHELVES FOR STORAGE, SEATING AND FOOD PREP</li> </ul>
DINING	<ul style="list-style-type: none"> <li>-SEATING TO ACCOMMODATE GROUPS OF 8 OR LARGER</li> </ul>	<ul style="list-style-type: none"> <li>-FLEXIBLE LENGTH “FARM” STYLE TABLE THAT CAN HOLD UP TO 10 PEOPLE AND SERVE MULTIPLE PURPOSES</li> </ul>
LIVING	<ul style="list-style-type: none"> <li>-COMPUTER WORK</li> </ul>	<ul style="list-style-type: none"> <li>-FREE UP FLOOR SPACE BY</li> </ul>

	STATION  -COMPUTER ACCESSORIES  STORAGE  -LOUNGING AREA	MOUNTING TV ON WALL  -FIND ALTERNATE STORAGE  FOR MEDIA ACCESSORIES  -BOOK/MAGAZINE STORAGE
BATHS	- INSTALL LOW FLOW  TOILET AND SHOWER  HEADS  - REPLACE VINYL  FLOORING WITH  SUSTAINABLE OPTION  -REPAINT WITH MOLD  INHIBITOR  -VANITY LIGHT WITH  BETTER COLOR  RENDERING (CURRENT  LIGHT TURNS SPACE  YELLOW)  -NEW SHOWER AREA IN  MASTER BATH	-NEW SINKS AND VANITIES  -MORE STORAGE  -REPLACE OLD BASE MOULDING  -LOW-MAINTENANCE WALL  FINISHES FOR HIGH MOISTURE  AREAS  -SOLATUBE IN SHOWER TO  PERMIT MORE DAYLIGHT IN  SPACE FOR MASTER BATH
MASTER BEDROOM	-BETTER UTILIZATION OF  SPACE  -OPEN UP FLOOR SPACE	-ADD BED FRAME  -NEW FLOORING  -NEW WINDOW TREATMENTS

	<ul style="list-style-type: none"> <li>-WALL MOUNTED CLOTHES STORAGE TO ACCOMMODATE MEDIA</li> </ul>	<ul style="list-style-type: none"> <li>-FRESH PAINT</li> <li>-REPLACE WINDOW SCREENS TO PERMIT CROSS-VENTILATION</li> </ul>
SOUTH FACING SPARE BEDROOM	<ul style="list-style-type: none"> <li>-OPEN UP FLOOR SPACE TO ALLOW FOR PAINTING/DESIGN WORK</li> <li>-FIX WINDOWS FOR BETTER VENTILATION</li> </ul>	<ul style="list-style-type: none"> <li>-BETTER UTILIZATION OF AVAILABLE STORAGE,</li> <li>-ADDITION OF WALL MOUNTED STORAGE</li> <li>-LOW-MAINTENANCE FLOORING AND WALL PAINT FOR MESSY PROJECTS</li> </ul>
ADDITIONAL INFORMATION: FINISHES	REQUIREMENTS	PREFERANCES
WALLS	<ul style="list-style-type: none"> <li>-VOC FREE PAINT</li> </ul>	<ul style="list-style-type: none"> <li>-GREY, METALLIC AND WHITE COLOR PALETTE</li> </ul>
FLOORS	<ul style="list-style-type: none"> <li>-INSULATING "HARD" FLOOR, LOW MAINTENANCE, LIGHT COLOR</li> <li>-RENEWABLE MATERIAL</li> <li>-NO ADHESVIE</li> </ul>	<ul style="list-style-type: none"> <li>-WHITE FLOORS</li> <li>-PINE PLANKS OR CORK</li> <li>-REPLACE ALL EXISTING FLOORS</li> <li>-MARMOLEUM IN BATH WHICH WILL ALSO SERVE AS WALL</li> </ul>

	-COST EFFECTIVE	BASE
OTHER MATERIALS	-NO OFF GASSING -PURCHASE FROM AN ENVIRONMENTALLY SENSITIVE COMPANY -BUY LOCALLY IF POSSIBLE	-PURCHASE GENTLY PRE-USED SINKS, STORAGE UNITS, AND FURNITURE FROM AREA RE- SALE STORES, SALVAGE SHOPS -FIND INNOVATE USE OF LOCALLY AVAILABE MATERIALS TO CUT DOWN ON SHIPPING

## **B. Issues, Goals, Performance Requirements (PR), Design Concepts**

### ISSUE CHECKLIST (IN ORDER OF IMPORTANCE)

1. VISUAL OPENNESS (CLEAR AWAY CLUTTER)
2. CONVENIENCE – EASY TO ACCESS NECESSARY MATERIALS
3. FLEXIBILITY – USE ONE LARGE ROOM FOR MULTIPLE PURPOSES
4. ECONOMY OF ELEGANT MEANS – ACHIEVE THE APPROPRIATE SPACE  
EFFICIENTY, ECONOMICALLY, AND CREATIVELY  
PHYSICAL COMFORT – FRESH AIR, COMFORTABLE TEMPERATURES
5. PERSONAL AND COMMUNAL SPACE
6. MAINTENCE AND LONGEVITY

## 1. VISUAL OPENNESS

GOAL: To walk through the front door and have a clean visual flow through the space

PR: Keep objects away from front of windows allowing more visual outside access

PR: Keep objects off floor and horizontal surfaces

GOAL: Have a storage place for every object owned

PR: Utilize expansive walls for storage shelves and cabinets

PR: Keep footstools convenient to make access easy

PR: Balance closed and open shelving to keep aesthetic items within reach and clutter (papers, plastic) in reach but out of sight

GOAL: All items that leave and enter the house each day need a landing spot

PR: Have racks, shelves and hooks at both front and back doors

PR: Cubbies allow for quick drop off of papers and mail that need to leave the house again

GOAL: To visually and psychologically feel a sense of order in an open space with multiple purposes

PR: Use varying materials to define each space

PR: Keep circulation routes open and wide

GOAL: To combine natural and artificial lighting for comfortable work and relaxation space day and night

PR: Use glossy, reflective surface finishes to bounce light back into room from limited available windows

PR: Keep in mind light layers so needed amounts of general, task and ambient lighting are available day and night

DESIGN CONCEPT: Visual boundaries should be utilized in order to keep a narrow, open, multi-purpose space from becoming overwhelming and cluttered. Open lines of sight should work together with work together with these boundaries to allow visual access to multiple areas (kitchen, dining, task, relaxation). Layered lighting plan will allow for work to be done any time of day.

## 2. CONVENIENCE

GOAL: For all objects to have an easily accessible storage space

PR: Utilize bins and cubbies in closed storage so items can easily be dropped in

PR: Utilize open shelving where appropriate so often used items can easily be reached and replaced

GOAL: Items that travel should not be lost

PR: Drop off station for keys, phones, wallets, leashes etc will save time from looking for misplaced objects

PR: Adequate surface area for above items will prevent surfaces such as dining table or island from being cluttered

GOAL: Cleaning surfaces should be easy because “things” are already stored

PR: Add storage until there is no need to “store” items on workspaces such as counter or table

PR: Make surfaces seamless so water, food etc does not collect and mold

GOAL: Paper should stay out of site

PR: Provide plenty of drawers at areas such as task and back door entry for papers to be kept until filed or tossed

PR: Select opaque large recycle bin so paper doesn’t overflow before recycling comes

GOAL: Better control of trash, compost, recycling

PR: Keep above bins on castors under sink so they can easily be accessed while cooking

PR: Division of three will serve as three waste containers, thus reducing time needed to “take out trash”

DESIGN CONCEPT: The correct balance of storage and accessibility will allow items to be grabbed in a hurry and not tossed to the nearest piece of furniture. Ease of

storage encourages items to be placed where they belong. Convenience psychologically frees time from searching for lost items.

### 3. FLEXIBILITY

GOAL: Use space for entertaining, cooking, dining, working and relaxing

PR: Designate zones for each activity

PR: Leave enough space between for activities to overflow their zones when needed

GOAL: Furniture should be easy to move, rearrange and adapt to multiple purposes

PR: Select light pieces, on wheels when appropriate, so moving across room is feasible

PR: Select furniture that can be used for more than one purpose – i.e. sofa bed, ottoman storage etc

GOAL: Materials should be kept at hand to permit spontaneity

PR: Easy access to work supplies, cooking supplies, books, games, magazines, videos etc. facilitates use of multi-purpose space

PR: Multi-functional furniture should allow for working on couch as well at desk, or having drinks in seating area – i.e. tasks can move outside their designated zones



DESIGN CONCEPT: Since living area will essentially be one large space, visual and physical access and the ability to move items around will allow space to be used for multiple purposes throughout.

#### 4. ECONOMY OF ELEGANT MEANS

GOAL: Keep on budget while making space appear modern and creative

PR: Use bright light colors and metallic's to give sense of future orientation, clean lines, modern, contemporary images

PR: Use common materials for unique purposes to cut down on use of expensive, over-specified and high demand materials such as granite, hard wood etc.

GOAL: Emphasis on reduce reuse recycle

PR: Purchase used items from salvage stores and restore in creative ways

PR: Specify recyclable materials so that when life is over they can be put back into manufacturing stream

GOAL: Remember simplicity mantra: simplify

PR: Get rid of seldom-used items

PR: Less is more so fewer holding spaces can mean fewer owned possessions

DESIGN CONCEPT: Smart, creative space planning and material selections can help defy small spatial area and keep mind and imagination occupied with clean visual flow, interesting textures and unique materials.

## 5. PERSONAL AND COMMUNAL SPACE

GOAL: Build in “hiding” spots for rest, reading and privacy

PR: Placing furniture in nooks with reading lights makes space inviting and safe

PR: Set TV and seating areas on opposite ends of space so both activities can occur at once without interfering with each other

GOAL: Create sense of being inside looking out and outside looking in

PR: Level changes where possible can allow people to watch but stay removed from group activity or provide safe space to reflect on larger world outside

PR: Vary furniture heights can also create psychological differences while being seated (i.e. low slung sofa vs. high bar stool)

GOAL: Provide each person in home adequate storage for personal items

PR: Utilize spare bedrooms efficiently and effectively so both people feel they have personal space

PR: Pleasing personal space and storage will encourage personal items to be picked up and stored instead of being left out

DESIGN CONCEPT: Use nooks, corners, level changes, and spare areas to create outlets for personal reflection, sense of ownership, safety and rejuvenation.

## 6. MAINTENCE AND LONGEVITY

GOAL: Surfaces should be easy to keep clean with safe, homemade cleaners such as vinegar, baking soda and lemon juice

PR: Select durable, hard materials that resist staining, cracking and chipping

PR: Seal surfaces where appropriate to mitigate hard to clean crevices and buildup

GOAL: Keep surfaces seamless and flat where possible to mitigate mold and debris collecting in grout, cracks etc

PR: Under mount fixtures such as sinks so counters can be washed off right into vessel

PR: Minimize counter space in bath areas so sink basin is the only area that collects soap and water residue

GOAL: Materials should have long life cycle

PR: Specify most durable materials that can be afforded

PR: Stay away from trendy selections that might look outdated in ten years

DESIGN CONCEPT: Forward thinking and smart planning should ensure that materials selections are easy to maintain and will outlast several homeowners,

increasing sale value and protecting future owners from costly renovations and repairs.

### **C. Budget**

The intended budget for this project is \$20,000. This amount should cover materials and labor for the kitchen and both bathrooms.

The budget has been divided as follows:

**Master bathroom: \$3000** – New shower stall, doors, faucets, toilet, sink, vanity base, storage, lighting and floor. Should also include hired plumbing contractor.

**Guest bathroom: \$2000** – New toilet, floor, sink, vanity base, tub replacement.

**Kitchen: \$8,000** – New cabinets, counter, sink, flooring, lighting and island plus labor for plumbing and electric. No new appliances.

**Flooring:** Re-floor entire house if possible – cost is around \$3.20 sq ft. For 1500 sq ft this comes out to almost \$5000. Floor is floating and will be installed by us.

**Doors: Front and patio - \$2000.** The patio door is the most expensive at around \$1500. If possible we will find a used version at a salvage store or purchase one on the Internet.

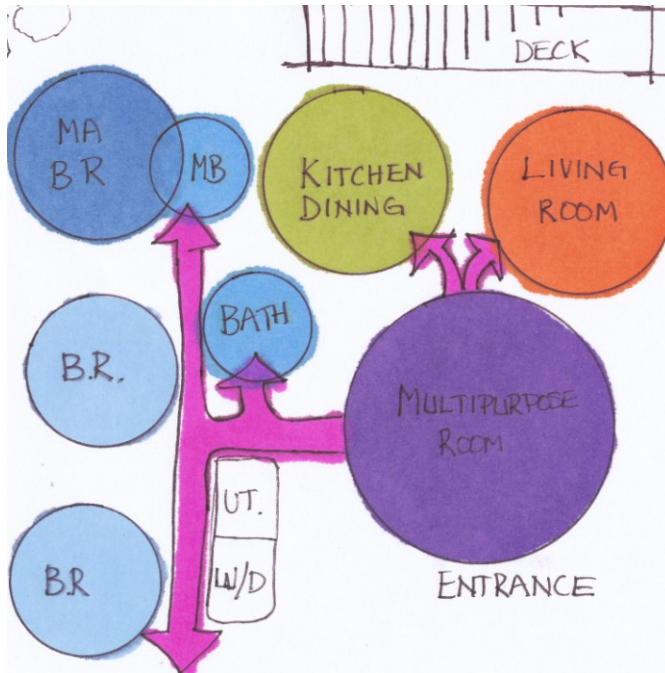
This comes to **\$20,000** exactly and does not leave room for cost overruns. Hopefully we will be able to do most of the labor and find materials sales and discounts. Prices for all materials specified are listed in Finishes Manual. However, discount materials will replace specifications whenever possible.

## **Chapter 4: Results**

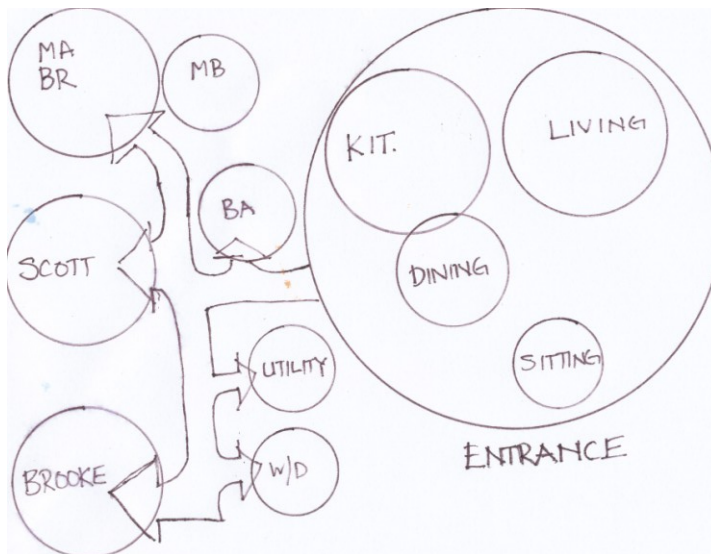
After all of the relevant data is collected from the client and precedent studies, the initial step of the design solution involves schematics. These are sketches produced as a quick and fluid way of space planning and problem solving before the final drawings are created in drafting programs.

### **A. Schematics**

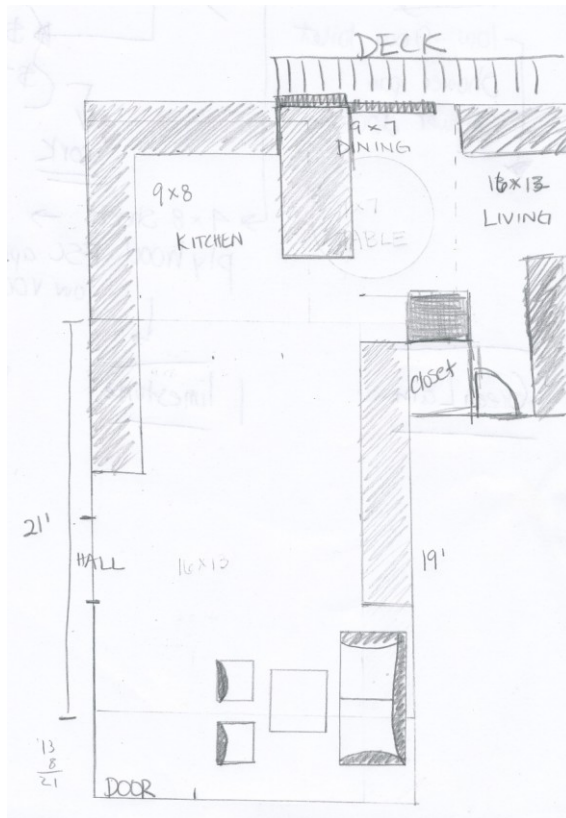
The following drawings were sketched prior to entering plans into drafting programs.



EXISTING LAYOUT

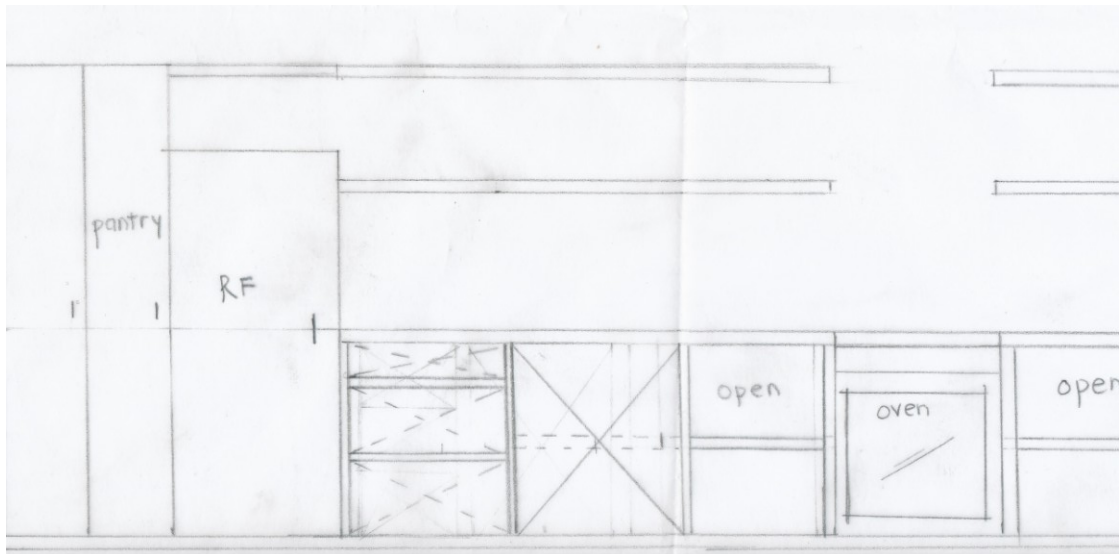


RENOVATION LAYOUT

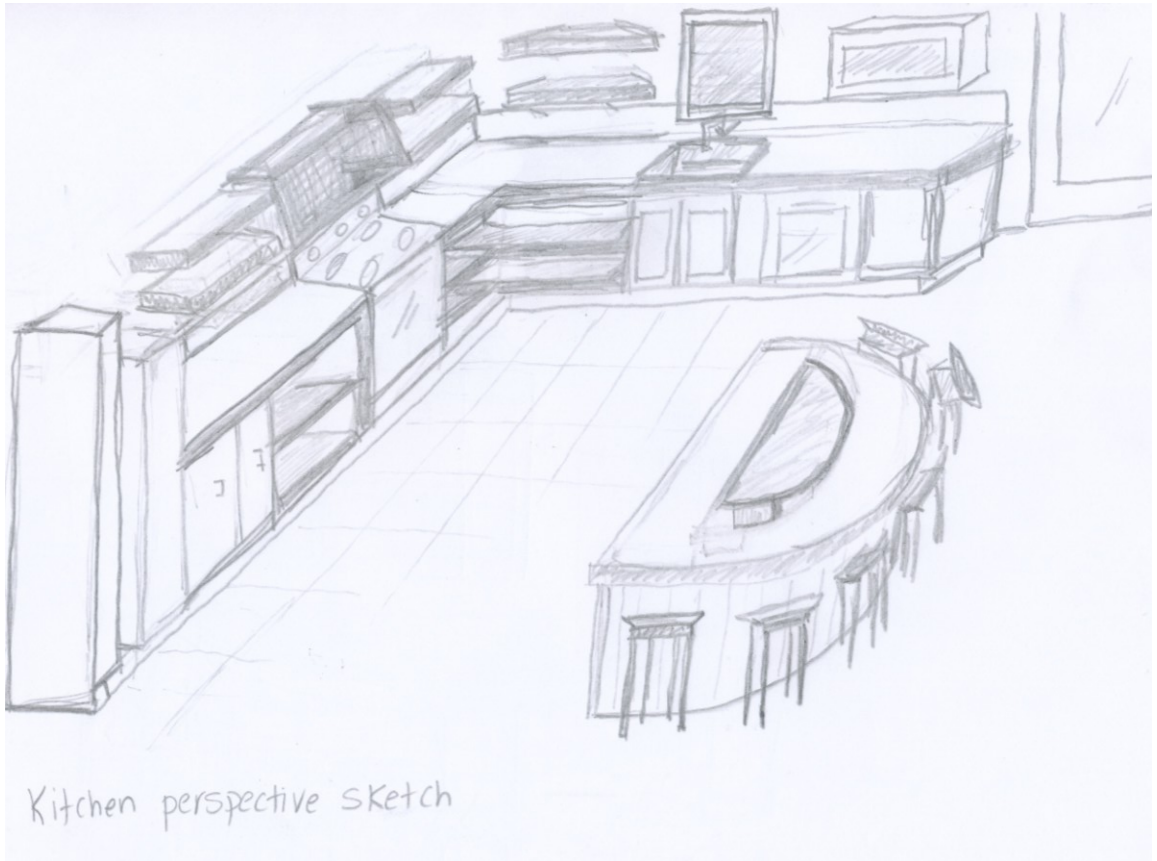


NEW KITCHEN PLANN

## NEW KITCHEN ELEVATION

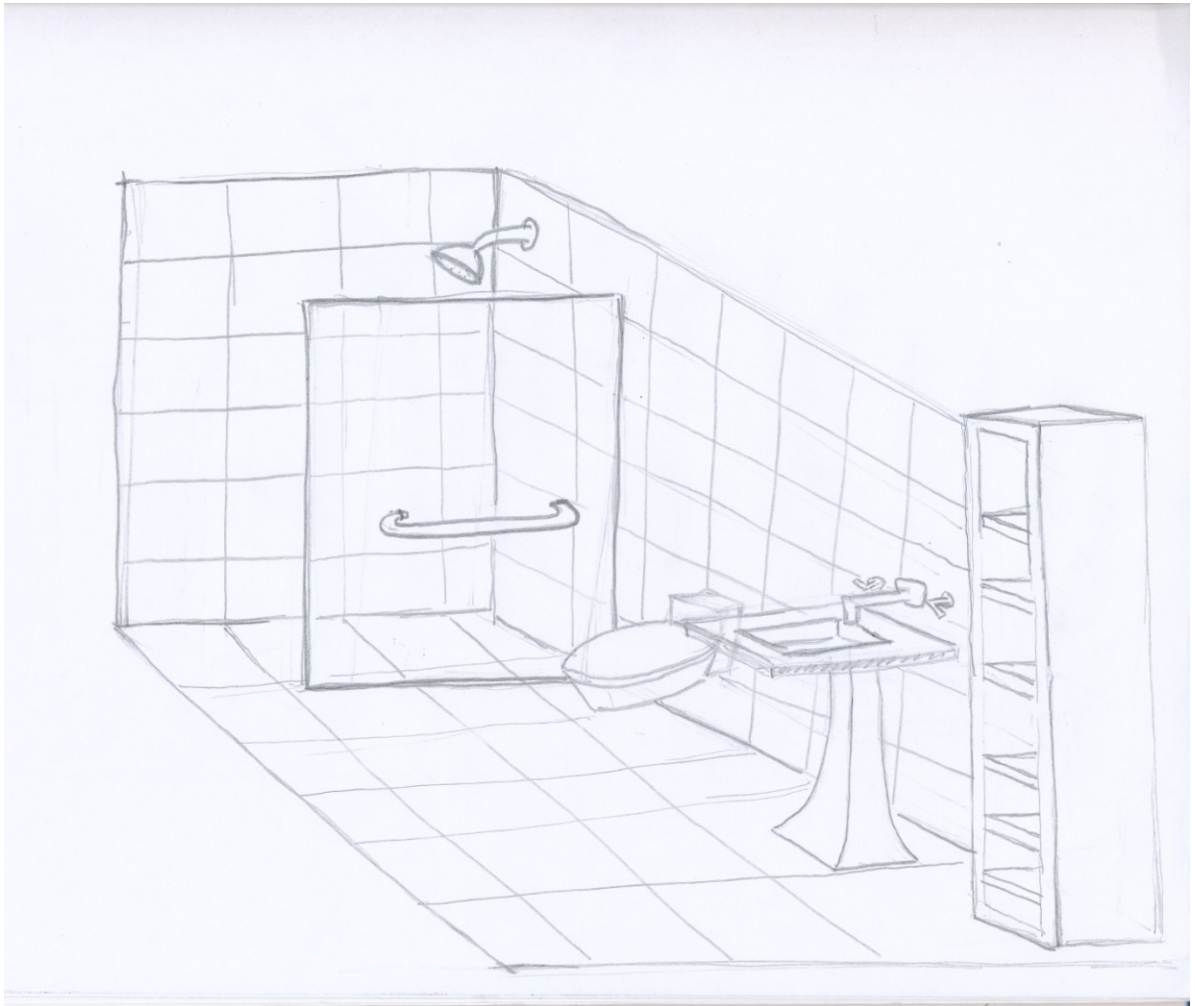






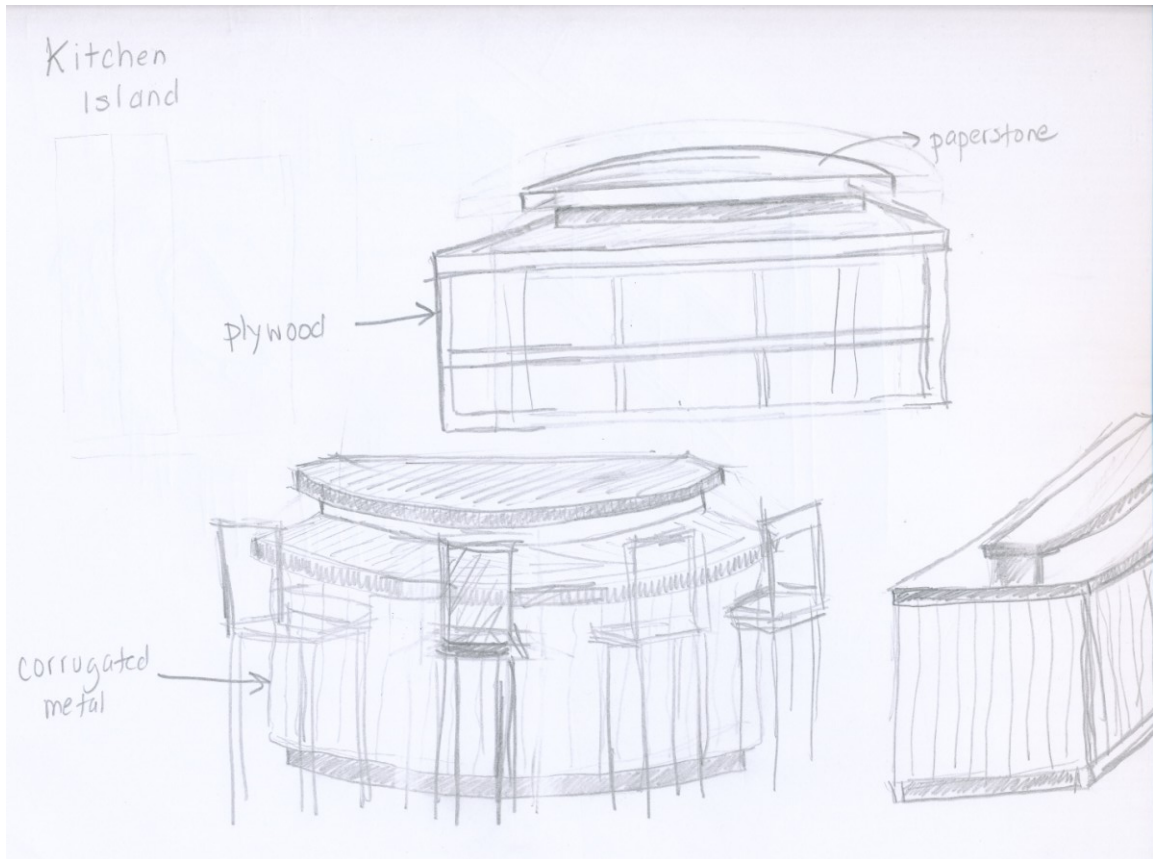
Kitchen perspective sketch

## MASTER BATHROOM PERSPECTIVE





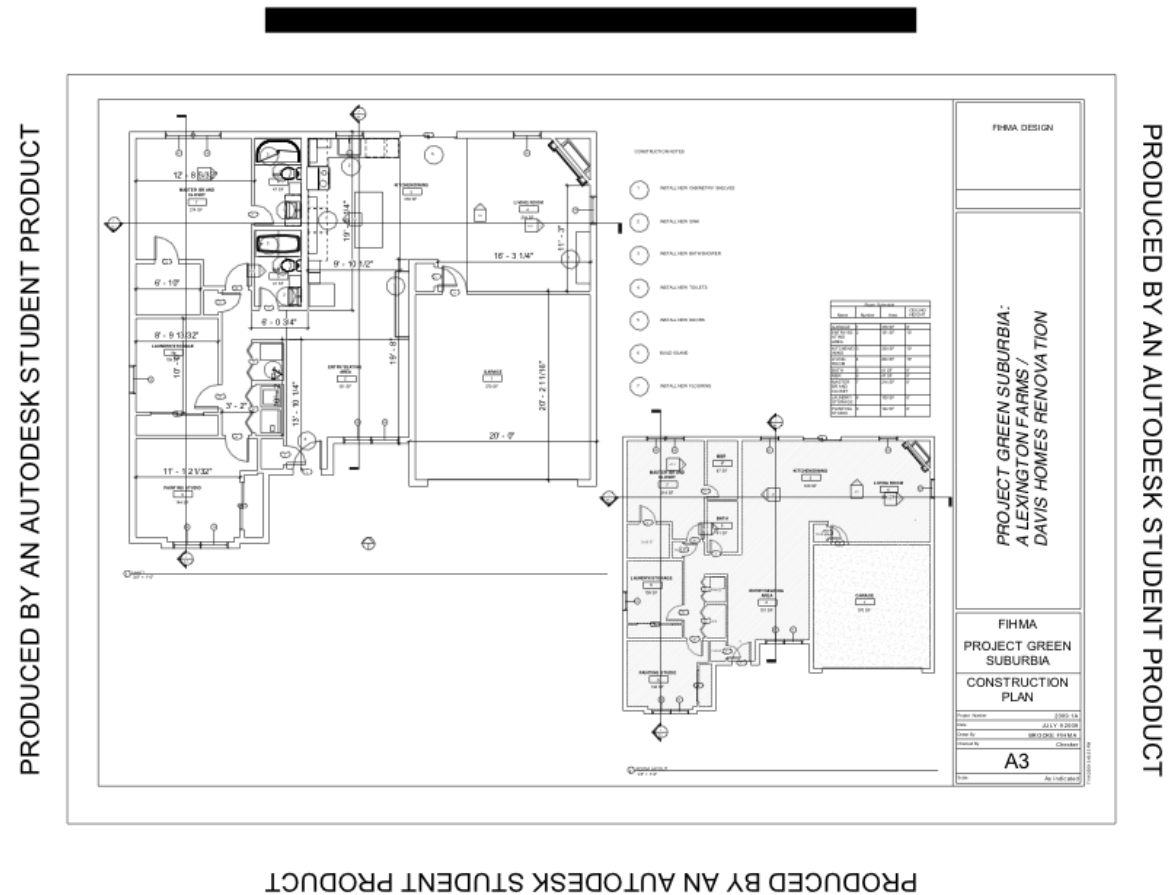
WORK AREA PERSECTIVE



KITCHEN ISLAND SKETCHES

## B. Drawings

Following are some selected drawings from the final project design. These drawings demonstrate an overview of the schematics transformed into construction documents. The full set of drawings can be found in Appendix A.



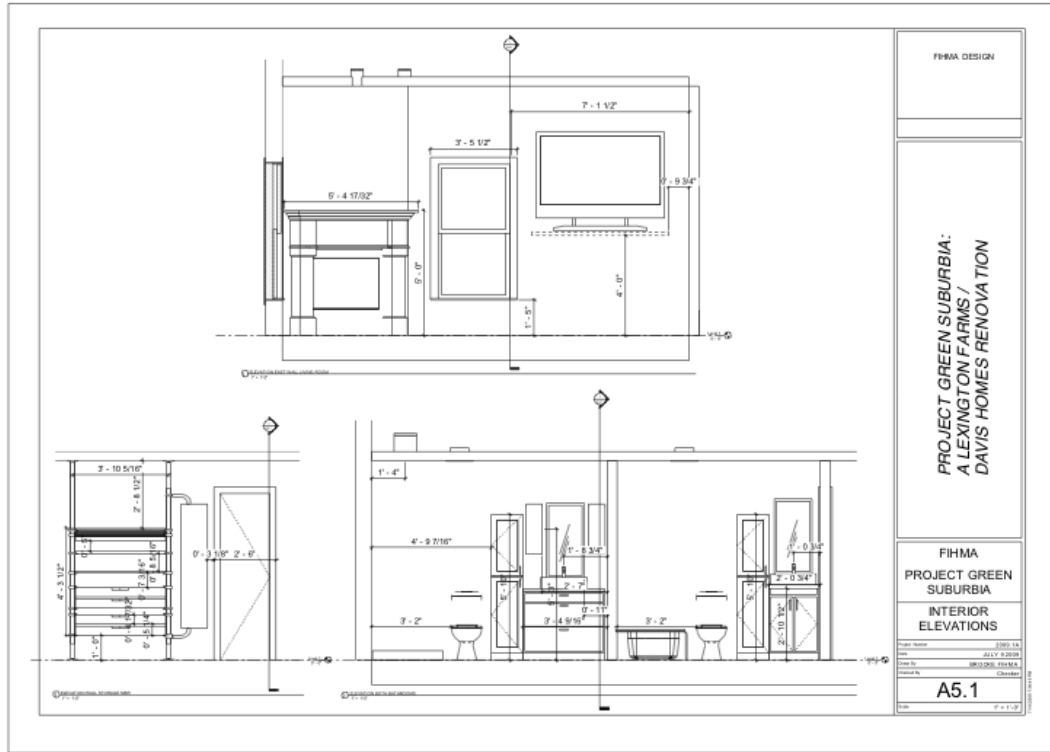
Floor Plan and Room Layout

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PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

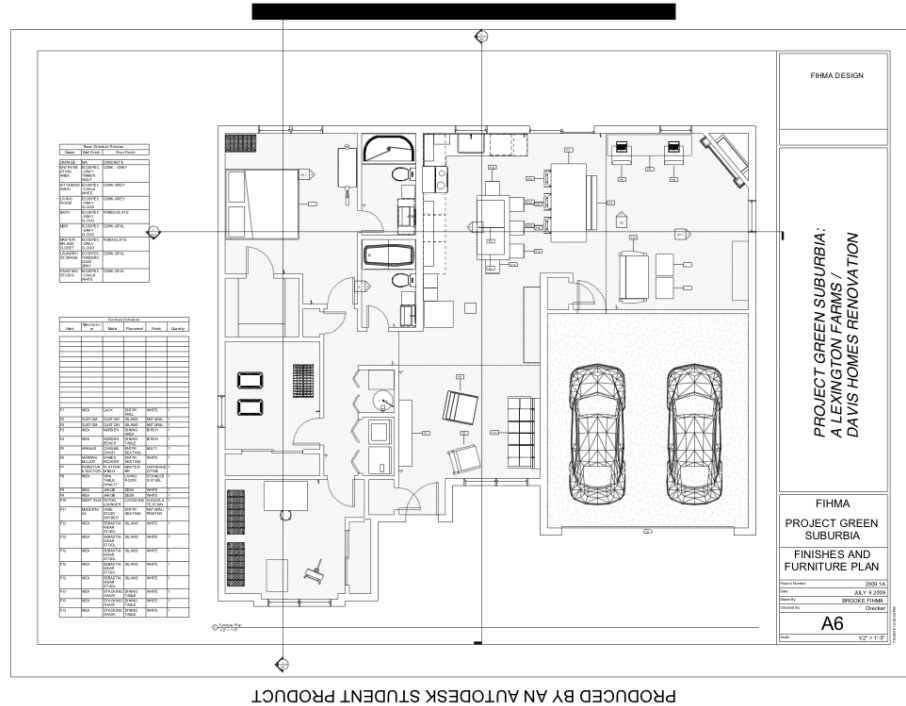


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PRODUCED BY AN AUTODESK STUDENT PRODUCT

Living Area and Bathroom Elevation Drawings

PRODUCED BY AN AUTODESK STUDENT PRODUCT



PRODUCED BY AN AUTODESK STUDENT PRODUCT

## Furniture Layout

### Chapter 5: Discussion

Meeting the goals of storage, function and using green materials proved to be a challenge when constrained with a \$20,000 budget. Unfortunately, many recycled materials cost much more than their counterparts available at big box home improvement stores. This is not only because of they are sold on a smaller scale to fewer consumers, but also because many of them are labor and/or energy intensive to produce. This chapter will deal with lessons learned during the design process and will also include the Design Statement and Design Direction Summary. These two written statements are crucial to achieving an overview and theoretical viewpoint from which to design. The Design Statement serves as a mission



statement, commenting on the most important requirements the finished design should meet. The Design Direction Summary addresses more theoretical issues and provides a frame of reference for proceeding with space planning and materials selection.

## **A. Statements**

### **DESIGN STATEMENT:**

This suburban remodel should negate stereotypes and achieve all of the things that urban sprawl activists and city dwellers say that it can't do. First and foremost it should and will be environmentally sensitive with the utmost attention given to materials selections that don't off-gas, are available locally (a 500 mile radius according to LEED), and which are renewable or recyclable at the end of their life. Second, a focus will be placed on sound design principles and progressive, creative, contemporary aesthetics that should surpass trends and impress design savvy urban dwellers. This will be achieved by attention to detail, multi-use open space planning, proportion, texture, natural light and visual continuity. Finally, the ultimate goal is to achieve a budget and environmentally friendly renovation of a relatively small space which will prevent the current homeowners from having to move and which will accommodate their family for several years to come.

### **SUMMARY OF DESIGN DIRECTION:**

The design, artistic and creative direction of this renovation echoes several sources. Smaller earthen houses of Europe, often covered in lathe and plaster and brilliant

white wash, and which span decades in their durability, aesthetic value and functionality are certainly a primary force in this design. However, knowing that this type of hand craftsmanship is costly and out of reach in the United States, modern amenities will be utilized such as drywall, plywood, interior paint, solid surface and other commercially available products. Classic Mid-Century Modern design will also inform choices and decisions such as an open floor plan, plain glass windows without mullions, angular lines and a monochromatic color palette. Finally, these two areas of thought will be grounded with materials that reference mid-west living such as galvanized metal, a solid birch, naturally finished farm table, industrial barn pendant lights and a large white porcelain wall mounted sink. I believe taking the commonalities of these three totally different aesthetics and combining them will create a living space that is both forward thinking while remaining grounded in mid-western roots.

## **B. Reflection**

This project will add to a growing body of examples of green remodeling efforts by demonstrating that a house in a subdivision governed by an Architectural Review Committee can still be made unique and contemporary with a focus on environmentally conscious materials. The completed design plan reflects each of the three examples provided in the Visual Research Review. Removing the existing wall separating the useless entry room from the kitchen opened the space providing

more room for a larger, more functional kitchen and a proper entry. This open plan reflects the Tent House in Example 1 from the Visual Research Review.

Before, the wall dividing the front room from the kitchen created an uncomfortably large area that couldn't be ignored because of its size, but was impractical as a dining room and uncomfortable as a living room because it was away from the fireplace, and lacked privacy by being at the front of the house. Now that area can operate as a small entry that can ease guests into the rest of the house. The kitchen and a large island will be the first room that greets them, and because the kitchen is now situated between the entry sitting area, and the living room with the TV and fireplace, the space for guests to linger before a meal has expanded to the entire public part of the house. People can feel in touch with the cook, game watchers, and those seated for conversation without feeling excluded by a divisive wall.

Marzia's Kenyan house provided the inspiration for the use of raw, textural materials such as the corrugated metal used in the island, the cork on the floors, and the recycled Paperstone counters. Not only are these materials easy to come by, but they are recyclable and free of toxic chemical components. They also offset the angular, modern lines already existing in the house and give the space a more organic feel.

Finally, David and Im's apartment served as an excellent example of making use of vertical wall space when a house lacks a dedicated storage area. The open

shelving on both walls of the kitchen will provide space to display and store decorative items as well as books and art.

This project incorporates the strongest aspects of all three of the above examples while maintaining a unique, modern sensibility. Gray walls enhanced by bright white trim, vaulted ceilings, soft cork floors, open shelves and highlights of metal contrasting against black counters create an open, airy, loft-like contemporary space. An open floor plan centered around the kitchen encourages flow between the front and back of the house and highlights the view of the pond from the patio doors, emphasizing natural light and expanding the entertaining area outside.

Keeping the bathrooms black and white helped to simplify the small spaces, helping them to feel less cramped and more functional. Additional storage pieces in both baths cut down on counter space, but also eliminated the possibility of clutter accumulating on the counters. Using metal for the shower surrounds lent a reflective quality to those areas, visually expanding the bathroom space.

Although it was cost prohibitive to purchase cabinets made of reclaimed or solid wood, the environmental drawbacks of using MDF (medium density fiberboard) cabinetry was offset by selecting renewable or non-toxic materials for areas that would require large amounts of application, such as the floor, counters and paint. Carpet was marked for recycling and old cabinetry is to be donated to Habitat for Humanity's Reuse Shop.

In summary, the restrictions placed on a design by attempting to make it environmentally responsible force both the designer and homeowner to make smart

decisions about what is essential in the new space, and what is luxury or can be done without. Since upfront costs are more, the materials are more difficult to come by, and often must be shipped, and extra effort is needed to relocate old materials for reuse or recycling instead of just tossing them in the dumpster, additional time and cost need to be budgeted to work around these issues in advance. But with the proper planning, a successful green remodel is entirely possible on a small budget.

## **Chapter 6: Conclusions and Recommendations**

Designing the interior of a suburban ranch house to be green and contemporary proved to be a challenge worth the effort and investment. The space should be much more functional, allowing the homeowners to maximize all of the existing square footage for entertaining, work and storage. This chapter assesses recommendations for future design projects done in a similar vein.

First dedicate an entire document to the plans for handling construction waste. Since the project is not commercial, and the contractor will most likely just want to take everything to the dump, recycling locales, transport, fees and other considerations need to be worked out in advance.

Second, avoid purchasing items from big-box stores, including IKEA, as much as possible. Supporting local businesses and craftspeople falls under the environmentally responsible category, and more knowledgeable staff are likely to make the selection process easier in the first place. More effort will be required for materials research and sourcing, and this will need to be added into the budget, but

in the long run, this focus on local purchasing increases the homeowner's awareness of near-by businesses, allows the buyer to interact with the materials, and hopefully will create positive word-of-mouth advertising for the vendor, which in the end creates better competition and alternatives to big-box stores.

Third, create a time-line for ordering materials in, and make sure there is a storage area (a garage or basement) where those items can be placed until installation. Often it takes a month or more to special order an item, and the homeowner needs to be aware of this before the project starts should he or she choose to order something in the middle of construction.

Fourth, a smart layout and plenty of storage will sell a house faster than the use of green building materials, especially in the Midwest. Ensuring that these two factors are built into the design will help win over any green-building skeptics when the time comes to put the house on the market.

In the end, this project is about finding the proper balance between green building methods and precise design execution. Ultimately it is the designer's responsibility to meet the client's needs with environmentally sound options, and not wait for a client to ask for them. This approach will help green building to become standard practice instead of just another option in the long list of ways to renovate the interior of a home.